

# PATENT SPECIFICATION

1,176,015

DRAWINGS ATTACHED.

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## COMPLETE SPECIFICATION.

### Knobs and Knob Assemblies.

We, I.T.W. LIMITED, a British Company of 647 Ajax Avenue, Trading Estate, Slough, Buckinghamshire, and FORD MOTOR COMPANY LIMITED, a British Company of 88 Regent Street, London, W.1, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to knobs and to knob assemblies.

The invention is particularly applicable to the knobs which are mounted on the sills of motor vehicle doors and which are depressed to lock the vehicle door and extended to unlock it.

In a known assembly of this kind the knob is hollow and screwed onto a threaded end of a rod.

According to the present invention in a knob assembly:

- (a) a rod has a radial projection;
- (b) a knob has a tubular portion which fits over the rod;
- (c) the tubular portion of the knob has an aperture in which the projection locates; and
- (d) a part of the tubular portion which forms a side of the aperture is resilient and inhibits axial and rotary movement of the knob relatively to the rod.

How the invention may be carried out will now be described with reference to the accompanying drawing the single figure of which is an exploded view of a knob assem-

bly constructed according to the present invention.

A knob 1 is moulded from plastics and has a tubular portion 2 which is adapted to fit over a rod 3. The rod 3 has two diametrically opposed radial projections 4.

Two diametrically opposed first apertures 5 (only one of which is shown) are formed in the tubular portion 2. Two second diametrically opposed apertures 6 (only one of which is shown) are also formed in the tubular portion 2 adjacent the respective first aperture 5 to form two resilient webs 7 (only one of which is shown).

Each of the two webs 7 has a resilient projection 8 formed on it and a corresponding resilient projection 9 is formed on the opposite side of the aperture 5.

Two grooves 10 extend axially along the inner surface of the tubular portion 2 from its open end to the apertures 5. The grooves 10 are adapted to accommodate the radial projections 4 on the rod 3 as the knob 1 is fitted onto the rod 3.

To fit the knob 1 on the rod 3 the knob is pushed axially onto the rod so that the radial projections 4 pass down the grooves 10. When the projections 4 abut the ends of the groove 10 and the projections 4 are then in apertures 5, the knob 1 is rotated to force the resilient projections 8, 9 past the projections 4 on the rod 3 so that axial and rotary movement of the knob 1 relatively to the rod 3 is inhibited. The knob 1 can of course be dismounted from the rod by first turning the knob 1 with a torque above a predetermined value to cause the resilient projections 8, 9 to snap back over the metal projections 4 on the rod 3, and

then pulling the knob 1 axially off the rod 3.

- The knob assembly of the invention has the advantage over the aforementioned known construction that it is easier to assemble and does not work loose in use.

# WHAT WE CLAIM IS:—

1. A knob assembly in which:
  - (a) a rod has a radial projection;
  - (b) a knob has a tubular portion which fits over the rod;
  - (c) the tubular portion of the knob has an aperture in which the projection locates; and
  - (d) a part of the tubular portion which forms a side of the aperture is resilient and inhibits axial and rotary movement of the knob relatively to the rod.
2. A knob assembly as claimed in claim 1 in which the resilient side of the aperture comprises a resilient web formed by a second aperture adjacent the first mentioned aperture.
3. A knob assembly as claimed in claim 2 in which the resilient web has a projection

formed on it past which the projection on the rod is forced in order to locate the knob on the rod against rotation relatively to the rod.

4. A knob assembly as claimed in claim 3 in which the knob has a generally axially extending groove in the inner surface of the tubular portion and the groove is adapted to accommodate the projection and communicate with the aperture so that the knob is mounted on the rod by passing the knob axially over the rod to cause the projection to pass along the groove to the aperture and then rotating the knob to cause the projection to snap past the projection formed on the resilient web.

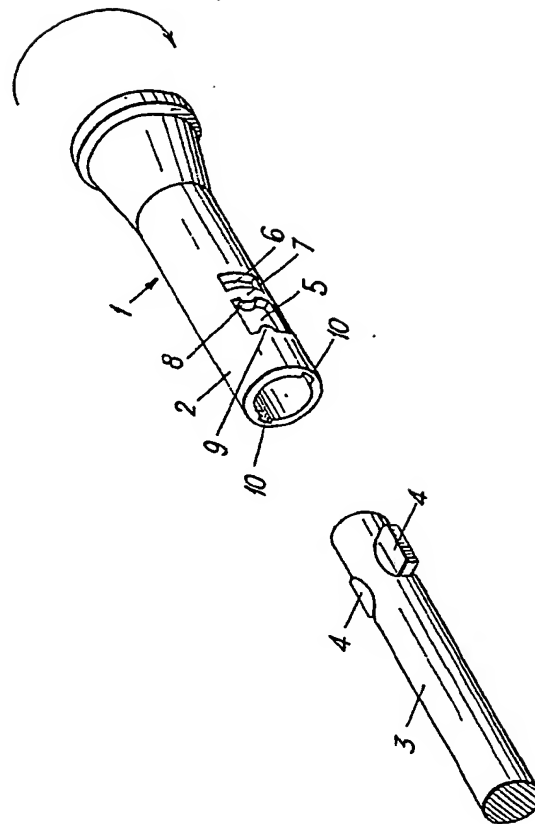
5. A knob assembly substantially as described with reference to and as shown in the accompanying drawing.

6. A knob for a knob assembly as claimed in any previous claim.

7. A motor vehicle door fitted with a latch mechanism which is controlled by a knob assembly as claimed in any one of claims 1 to 5.

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